Number Sense Exam 096, 2/7/2020

(1) $(7 - 14) \times 14 + (28 \div 7) =$ _____

(2) $16\% =$ _____ (proper fraction)

(3) $16 \times 302 =$ _____

(4) $562 - 628 =$ _____

(5) $\dfrac{9}{10} \times 1\dfrac{2}{3} =$ _____

(6) $112 - 358 =$ _____

(7) $2012 \times 25 =$ _____

(8) $27 \times 27 =$ _____

(9) $719 + 917 =$ _____

*(10) $58 + 588 + 5888 + 58888 =$ _____

(11) $17 \times \dfrac{17}{14} =$ _____ (mixed number)

(12) If 1 gram $= .04$ oz., then 4 oz. $=$ _____ grams

(13) $25 \times 46 =$ _____

(14) The GCD of 48 and 57 is _____

(15) The average of 18, 29, and 16 is _____

(16) MCXI + DLI $=$ _____ (Arabic Numeral)

(17) Which is larger: $\dfrac{5}{9}$ or $\dfrac{7}{11}$? _____

(18) $13 \times \dfrac{13}{15} =$ _____ (mixed number)

(19) $4\dfrac{1}{4} + 3\dfrac{1}{3} =$ _____ (mixed number)

*(20) $419 \times 481 =$ _____

(21) $(16 + 3 \times 13) \div 7$ has a remainder of _____

(22) 200 base ten equals _____ base 8

(23) $\sqrt{27 \times 48} =$ _____

(24) $12 \times 12 \times 12 =$ _____

(25) The set $\{f, i, v, e\}$ has _____ proper subsets

(26) If $\dfrac{8}{x} = \dfrac{x}{10}$ and $x > 0$, then $x =$ _____

(27) Which of the following is a prime number, 51 or 67? _____

(28) 24% of 25 is 20% of _____

(29) $(12 \times 23 + 11) \div 8$ has a remainder of _____

*(30) $\sqrt{111209} =$ _____

(31) $93 \times 97 =$ _____

(32) The discriminant of $x^2 - 4x + 2$ is _____

(33) 3 cubic yards equals _____ cubic feet

(34) 2.25 yards $=$ _____ inches

(35) If 8 pens cost \$12.20, then 4 dozen pens cost \$ __

(36) $3x + 4y = 5$ and $x + 2y = -3$, $x =$ _____

(37) The next term in the geometric sequence, $\ldots, \dfrac{2}{5}, \dfrac{1}{4}, \dfrac{5}{32}, \ldots$ is _____

(38) The product of the first 3 prime numbers is _____

(39) Let $x = 2y$, $y = 3z$, and $z = -1$. Find xyz. _____

*(40) $32 \times 17 + 33 \times 16 =$ _____

(41) $3\dfrac{2}{3} \times 3\dfrac{1}{3} =$ _____ (mixed number)

(42) If A is $\dfrac{4}{5}$ of B and B is $\dfrac{4}{5}$ of C, then A is what percent of C? _____ %

(43) If $|2x - 1| = 5$ and $x < 0$, then $x =$ _____

(44) The next term of $1, 1, 2, 3, 5, 8, 13, \ldots$ is _____

(45) $34 \times 74 =$ _____

(46) The cube root of 74088 is _____

(47) Find the units digit of 17^6. _____

(48) $\left(\dfrac{3}{4}\right)^2 \div \left(\dfrac{3}{8}\right)^2 \times \left(\dfrac{3}{16}\right)^2 =$ _____

(49) Find the area of the triangle whose sides are 10, 10, and 16 units long. _____

*(50) $\sqrt[3]{413414} =$ _____

(51) The circumference of the circle $(x-2)^2 + (y+4)^2 = 16$ is $k\pi$. Find k. _____

(52) $7 + 2.8 + 1.12 + \ldots =$ _____

(53) The complex conjugate of $3 + 4\mathrm{i}$ is $3 + k\mathrm{i}$. $k =$ __

(54) $4 + \dfrac{8}{3} + \dfrac{16}{9} + \dfrac{32}{27} + \ldots =$ _____

(55) $\log_5 \sqrt{125} =$ _____

(56) A regular pentagon has _____ distinct diagonals.

(57) If $\log_6(11x + 3) = 2$, then $x =$ _____

(58) 18% of 45 of 54% of _____

(59) $(1 - \mathrm{i})(1 + \mathrm{i}) = a + b\mathrm{i}$. Find $a + b$. _____

*(60) $6\dfrac{3}{4} \times 60006 \div 18 =$ _____

(61) $\sin\left(\dfrac{5\pi}{6}\right) =$ _____

(62) The circumference of the circumscribed circle around a $20, 21, 29$-right triangle is $k\pi$. $k =$ _____

(63) The sum of the coefficients of $(x + y)^4$ is _____

(64) $630°$ equals $k\pi$ radians. Find k. _____

(65) $\ln(e^4) =$ _____

(66) $\cos\left(\arcsin\left(\dfrac{4}{5}\right)\right) =$ _____

(67) $34 + 13 + 5 + 2 + 1 =$ _____

(68) $\dfrac{5}{6} + 1.2 - 2 =$ _____

(69) $1 + 8 + 27 + 64 + 125 + 216 =$ _____

*(70) $e^3 \times \pi^3 =$ _____

(71) $y = \dfrac{1}{x + 1} - 3$ has a horizontal asymptote at $y =$

(72) $\displaystyle\int_0^1 1 - x^2 \, dx =$ _____

(73) If $\sin\theta = .8$ then $\cos\theta =$ _____ in QIV

(74) If $x^2 + x + 1$, find $f(f(1))$. _____

(75) If $68 \pmod{14} \equiv x$, whereas $0 \le x \le 9$, then $x =$ _

(76) $3\ln(e^4) =$ _____

(77) If $x > 0$ and $|3x + 16| = 20$, then $x =$ _____

(78) $\displaystyle\int_0^1 x^4 \, dx =$ _____

(79) $124_5 \div 3_5$ _____ $_5$

*(80) $3\dfrac{1}{13} \times \sqrt{441} \times 26 =$ _____